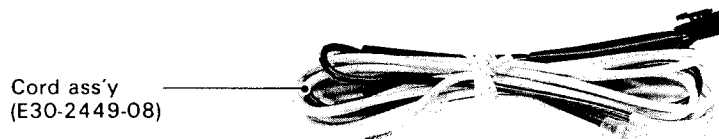
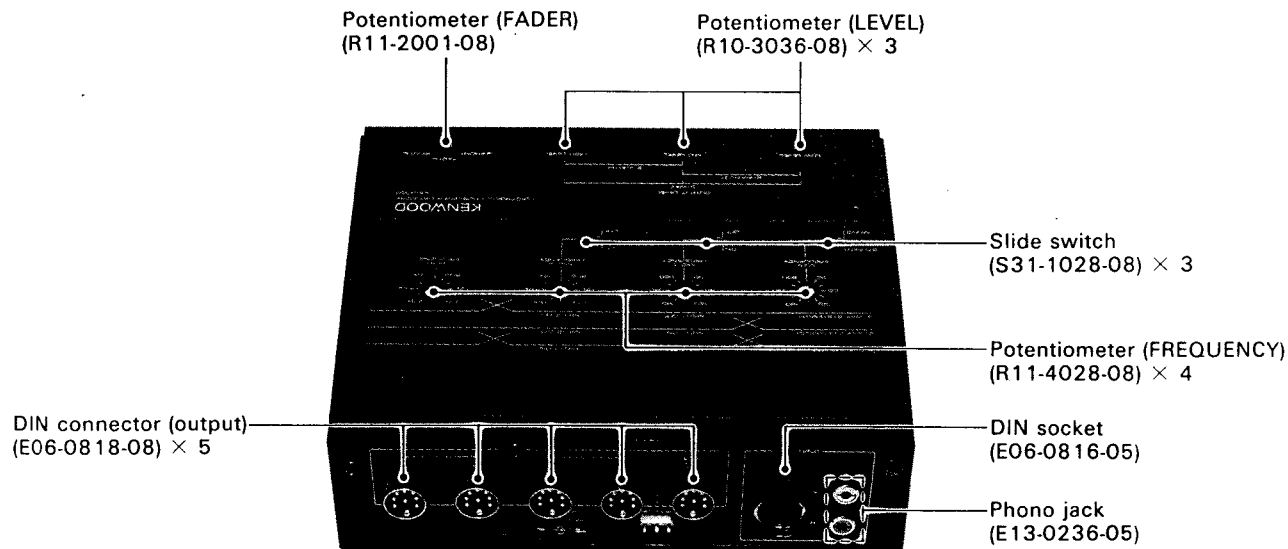
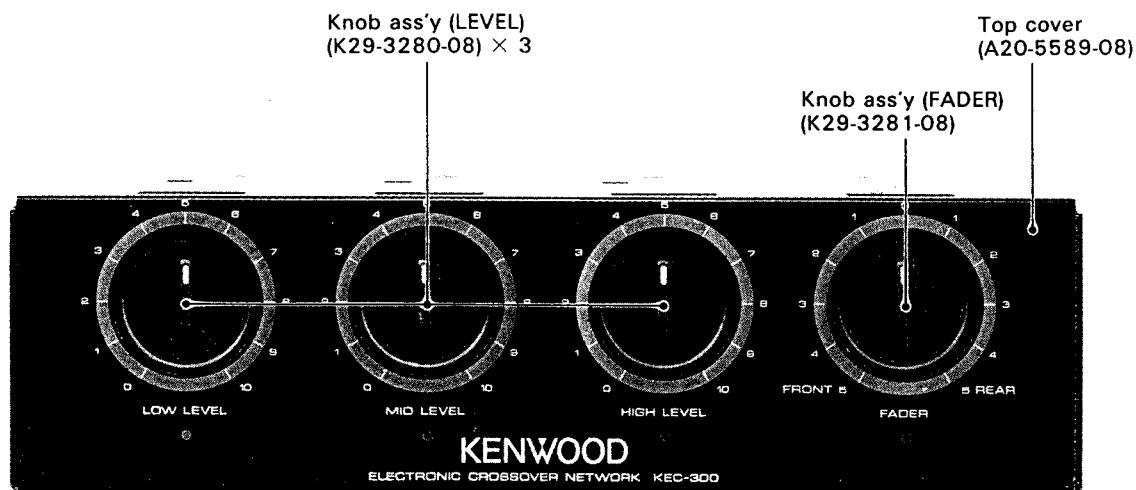


KEC-300

SERVICE MANUAL

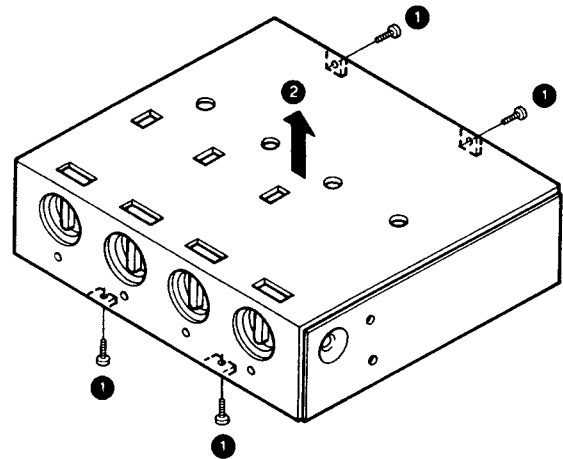
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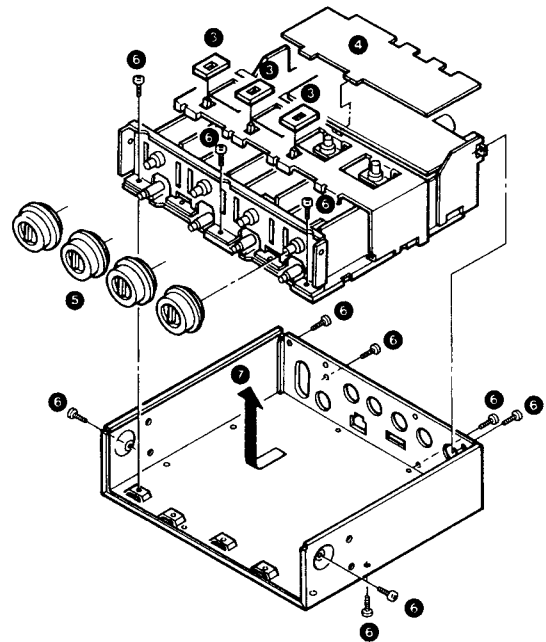
DISASSEMBLY FOR REPAIR

DISASSEMBLY PROCEDURE

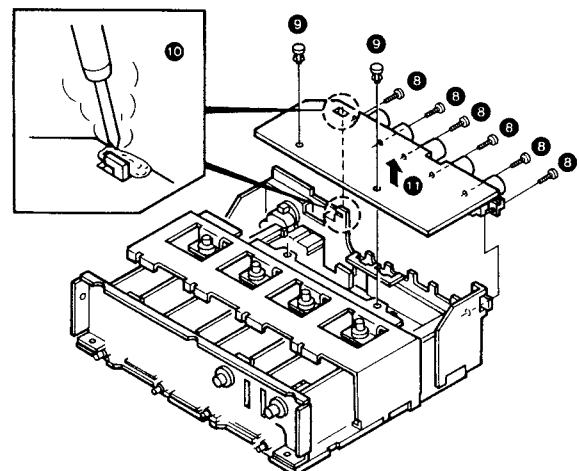
1. Remove the 4 screws (1) holding the top panel, and then take off the top panel in the direction of the arrow (2).



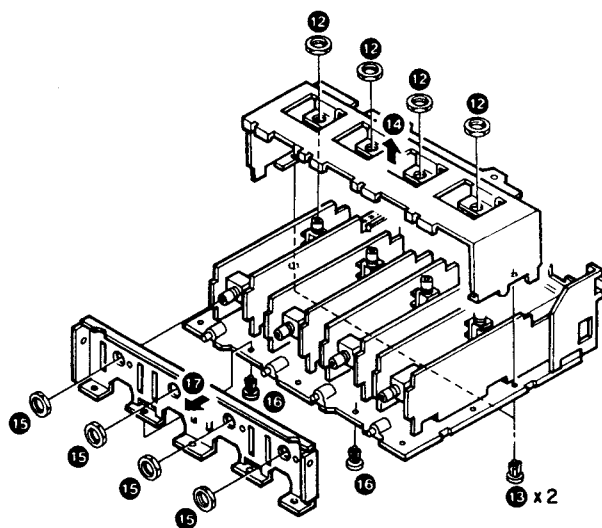
2. Remove the 3 switch covers (3) and the shielding plate (4).
3. Remove the 4 control knobs (5).
4. Remove the 10 screws (6) holding the PC board to the case, and then take out the PC board in the direction of the arrow (7).



5. Remove the 6 screws (8), the 2 push rivets (9) and the solder (10) holding the DIN Connector Unit PC board, and then take out the PC board in the direction of the arrow (11).



6. Remove the 4 nuts (12) and the 2 push rivets (13) holding the potentiometers on the metal fitting in the center of the PC board, and then remove the metal fitting from the PC board in the direction of the arrow (14).
7. Remove the 4 nuts (15) and the 2 push rivets (16) holding the potentiometers on the metal fitting in the front, and then remove the metal fitting from the PC board in the direction of the arrow (17).

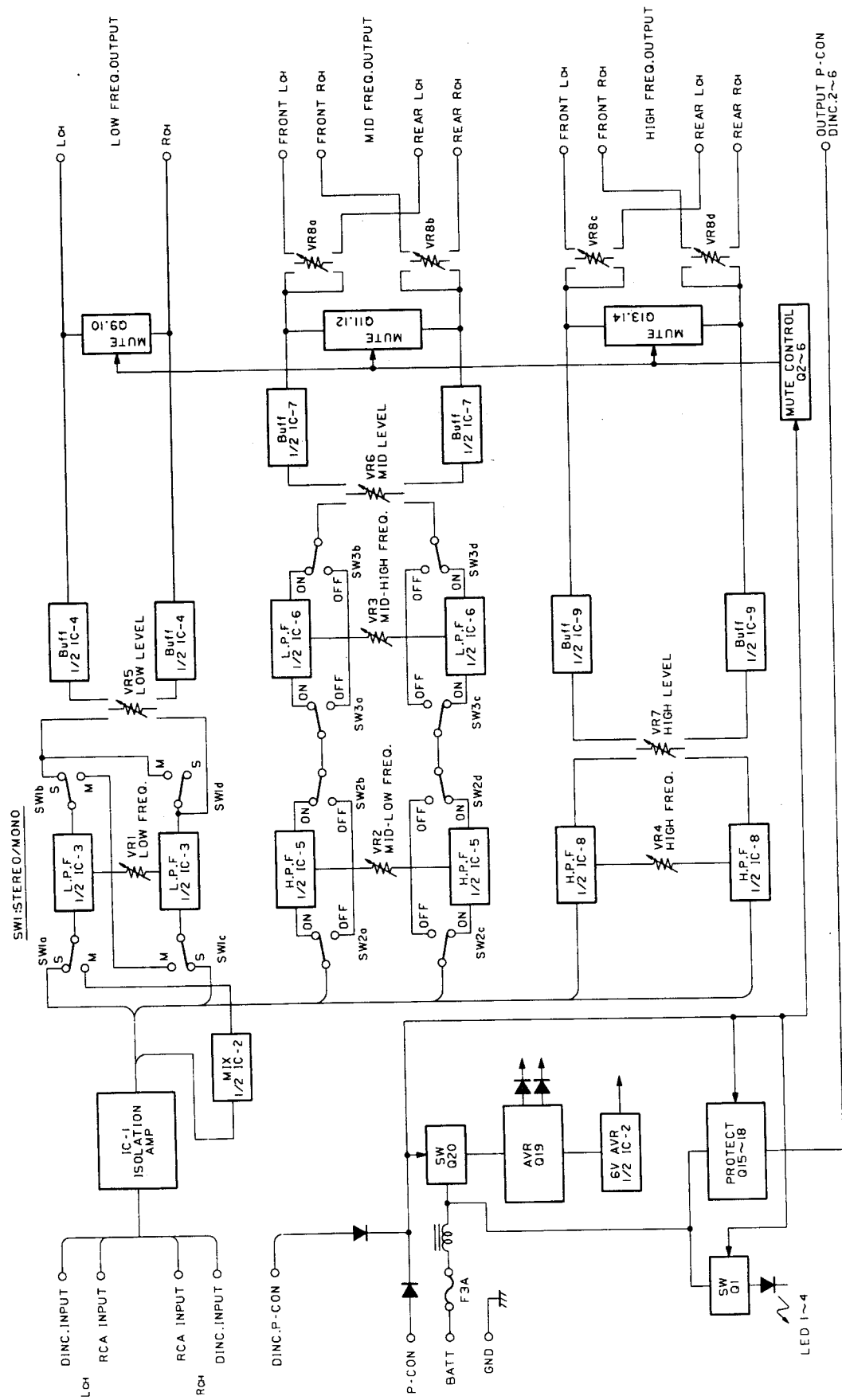


CIRCUIT DESCRIPTION

DESCRIPTION OF COMPONENTS ELECTRIC UNIT (W02-0945-08)

Component	Parts No	Operation/condition/compatibility
IC1	NH-0280	GND Isolation Amp
IC2 (1/2)	M5218P	6V Voltage Regulator
IC2 (1/2)	M5218P	Mix-Amp (LPF: 18 dB/oct)
IC3	M5218P	2nd. Low Pass Filter & 3rd Low Pass Filter:Low Out
IC4	NJM2068D-D	Low Buffer Amp: 3rd Low Pass Filter:Low Out
IC5	M5218P	2nd High Pass Filter: Low-Mid Out
IC6	M5218P	2nd Low Pass Filter: High-Mid Out
IC7	M5218P	Mid Buffer Amp: Mid Out
IC8	M5218P	2nd High Pass Filter: High Out
IC9	M5218P	High Buffer Amp: High Out
Q1	2SC1741A-(R)	Level & Fader Vr Led Driver
Q2	2SC1740S-(R)	Mute Driver (ON/OFF Comparator)
Q3	2SC1740S-(R)	Mute Driver Switch (C6 Discharge)
Q4	2SC1740S-(R)	Mute Driver (ON Time Comparator)
Q5	2SC1740S-(R)	Inverter
Q6	2SA933S-(R)	Mute Driver
Q7	2SC1815 (GR)	Voltage Regulator Buffer
Q8	2SA1015 (GR)	Voltage Regulator Buffer
Q9 ~ 14	2SC2878 (B)	Mute Switch
Q15	2SA933S-(R)	P-Con Protector Driver (Start)
Q16	2SA933S-(R)	P-Con Protector Driver (Sensor)
Q17	2SB822 (Q)	P-Con Protector Driver (Switch)
Q18	2SC1740S-(R)	P-Con Protector Driver (ON/OFF Comparator)
Q19	2SC2060-(R)	Ripple Filter
Q20	2SA934-(R)	Batt Switch

BLOCK DIAGRAM



A vertical bar chart consisting of seven segments, numbered 1 through 7 from top to bottom. The segments are arranged in a single column. Segments 1, 3, 5, and 7 are black, while segments 2, 4, and 6 are white. The numbers 1 through 7 are printed in the center of each segment, matching the segment's color.

1	6V
2	6.2V
3	6.2V

1	6V
2	6V
3	6V
4	0V
5	6V
6	6V
7	6V
8	13V

1	Lch	5	N.C.
2	GND	6	N.C.
3	P-CONT IN	7	N.C.
4	Rch	8	N.C.

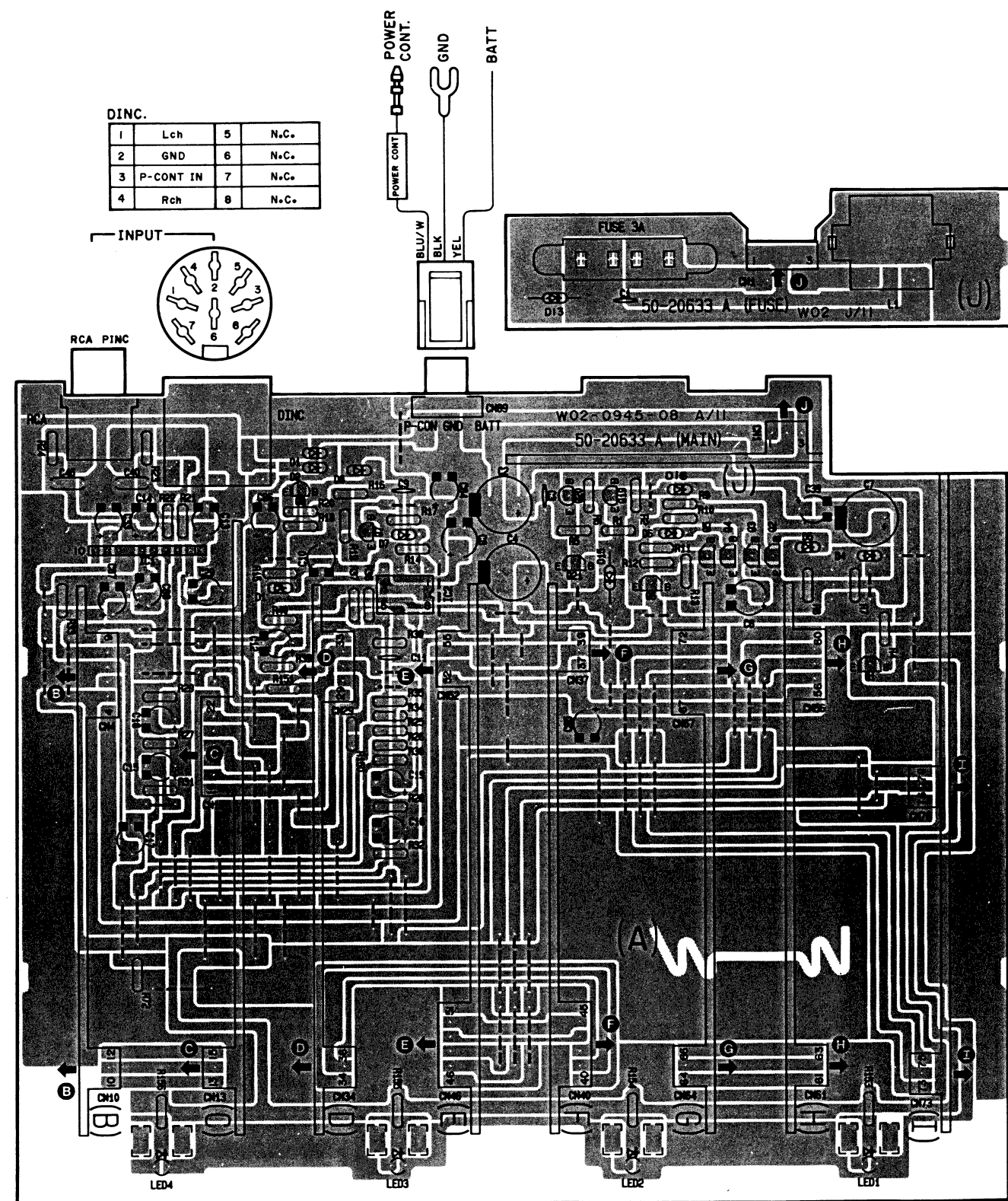
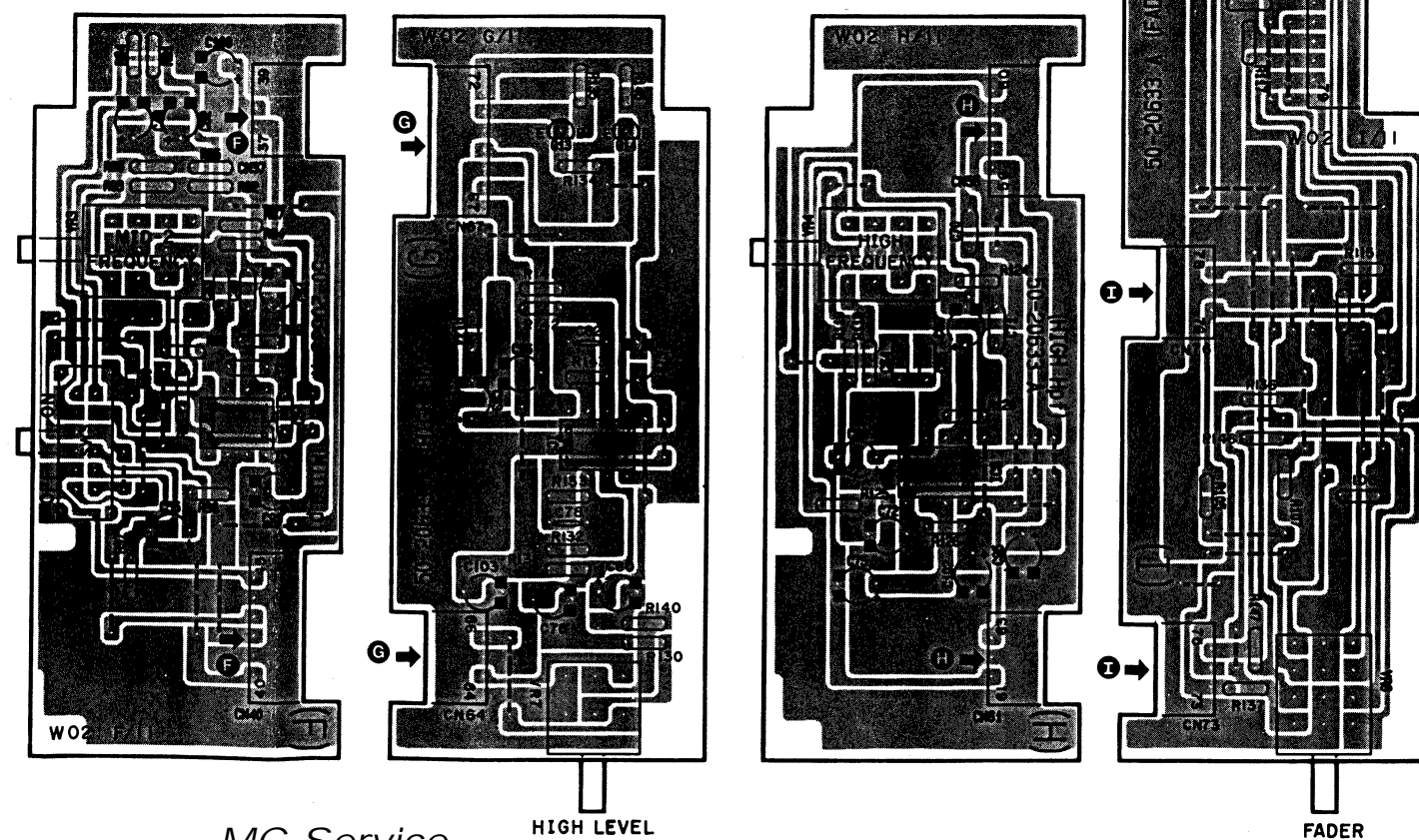
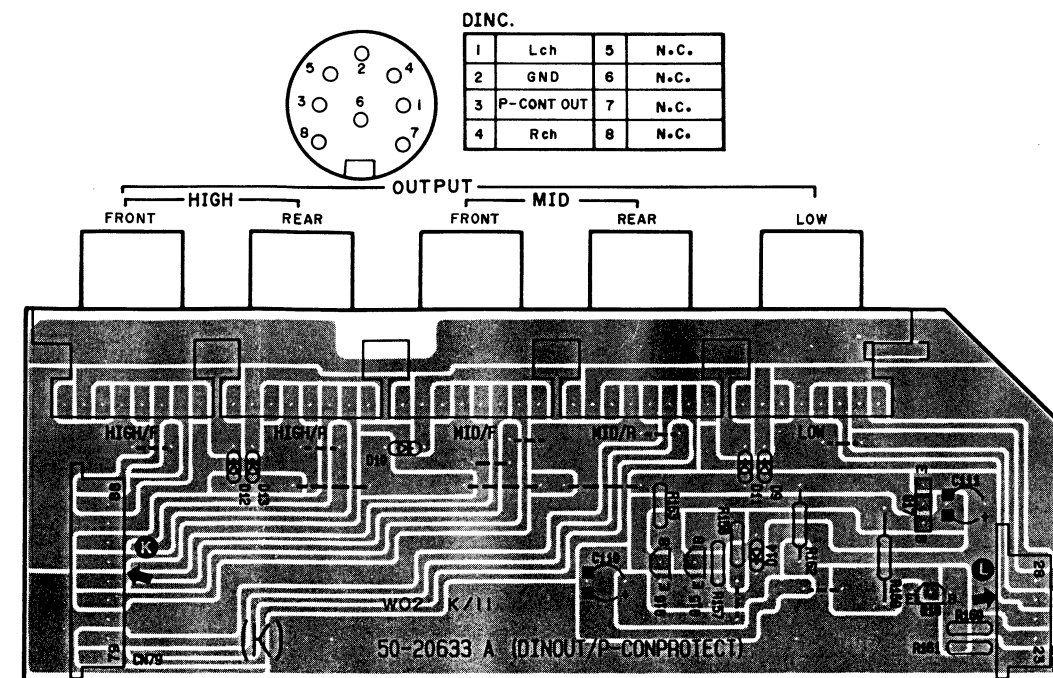


Figure 1 is a schematic diagram of a 16-bit parallel adder. It consists of two 8-bit adders. The top adder has inputs A and B, and a carry-in. Its output is labeled 'FRONT'. The bottom adder has inputs A and B, and a carry-in. Its output is labeled 'W02'. The two adders are connected in series, with the output of the top adder serving as the carry-in for the bottom adder.

P.C. BOARD (Component side view)

1	Lch	5	N.C.
2	GND	6	N.C.
3	P-CONT IN	7	N.C.
4	Rch	8	N.C.

1	Lch	5	N.C.
2	GND	6	N.C.
3	P-CONT OUT	7	N.C.
4	Rch	8	N.C.



MC-Service

HIGH LEVEL

FADER

KEC-300(K)

Refer to the schematic diagram for the values of resistors and capacitors.

1

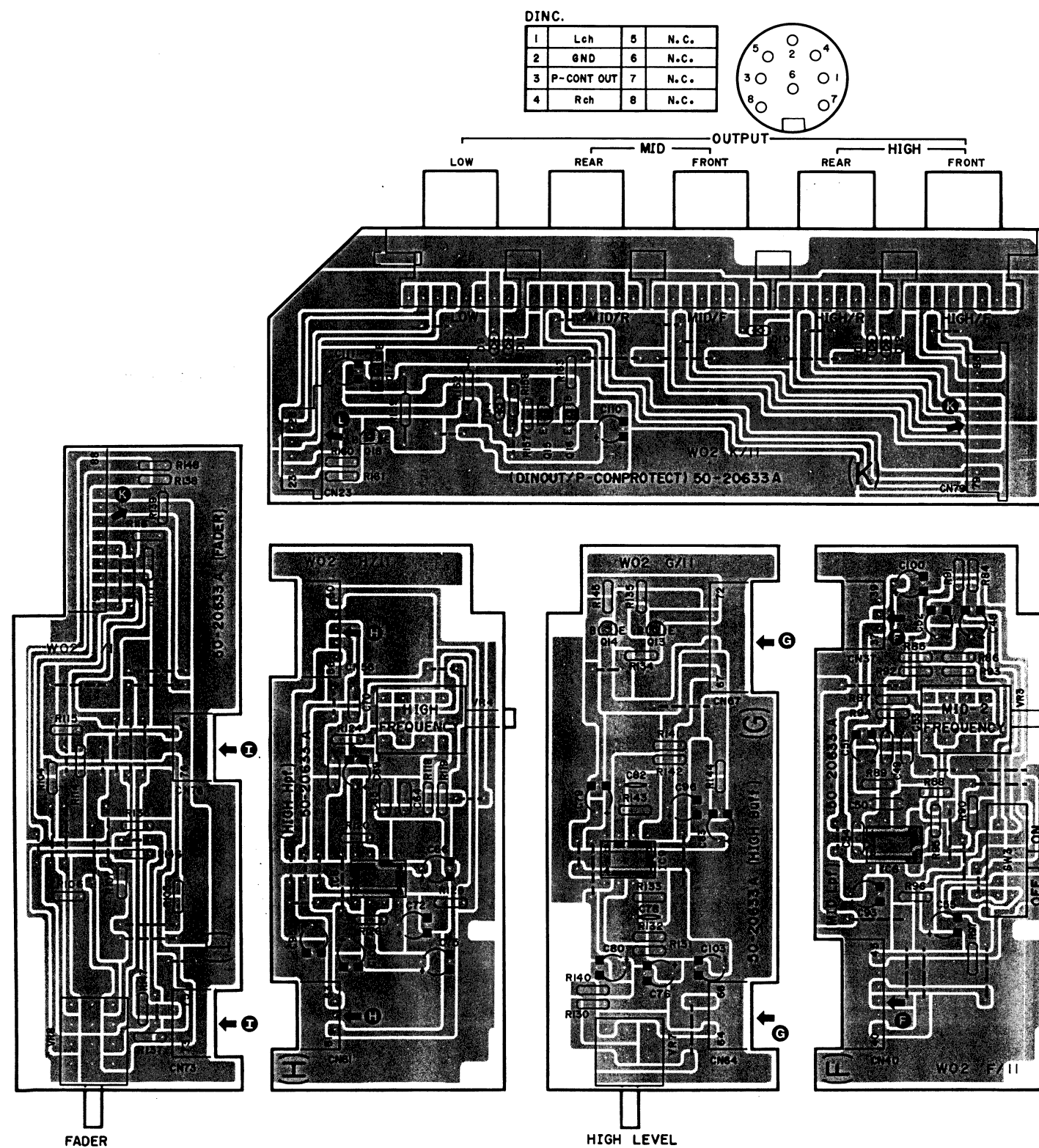
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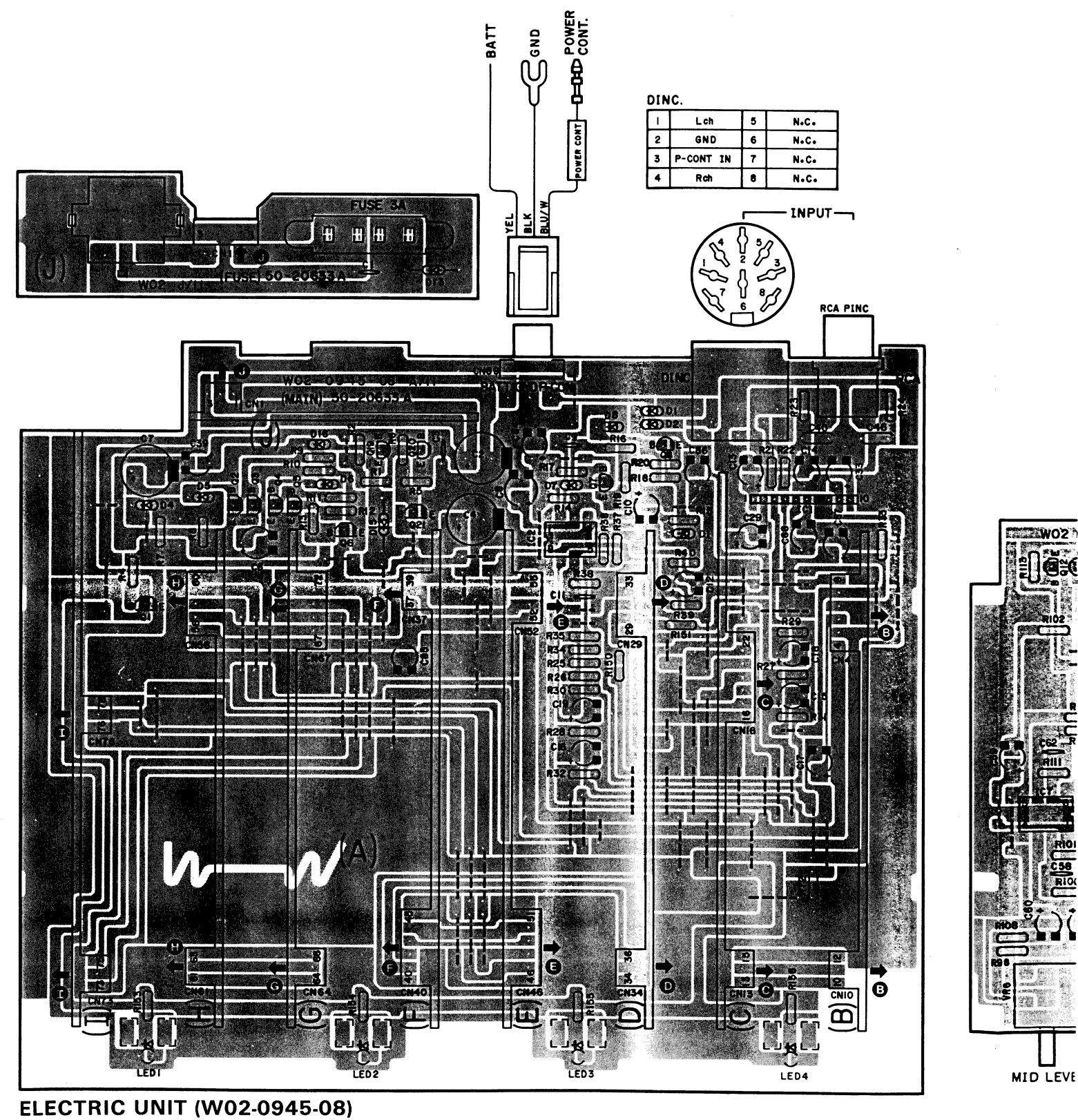
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6

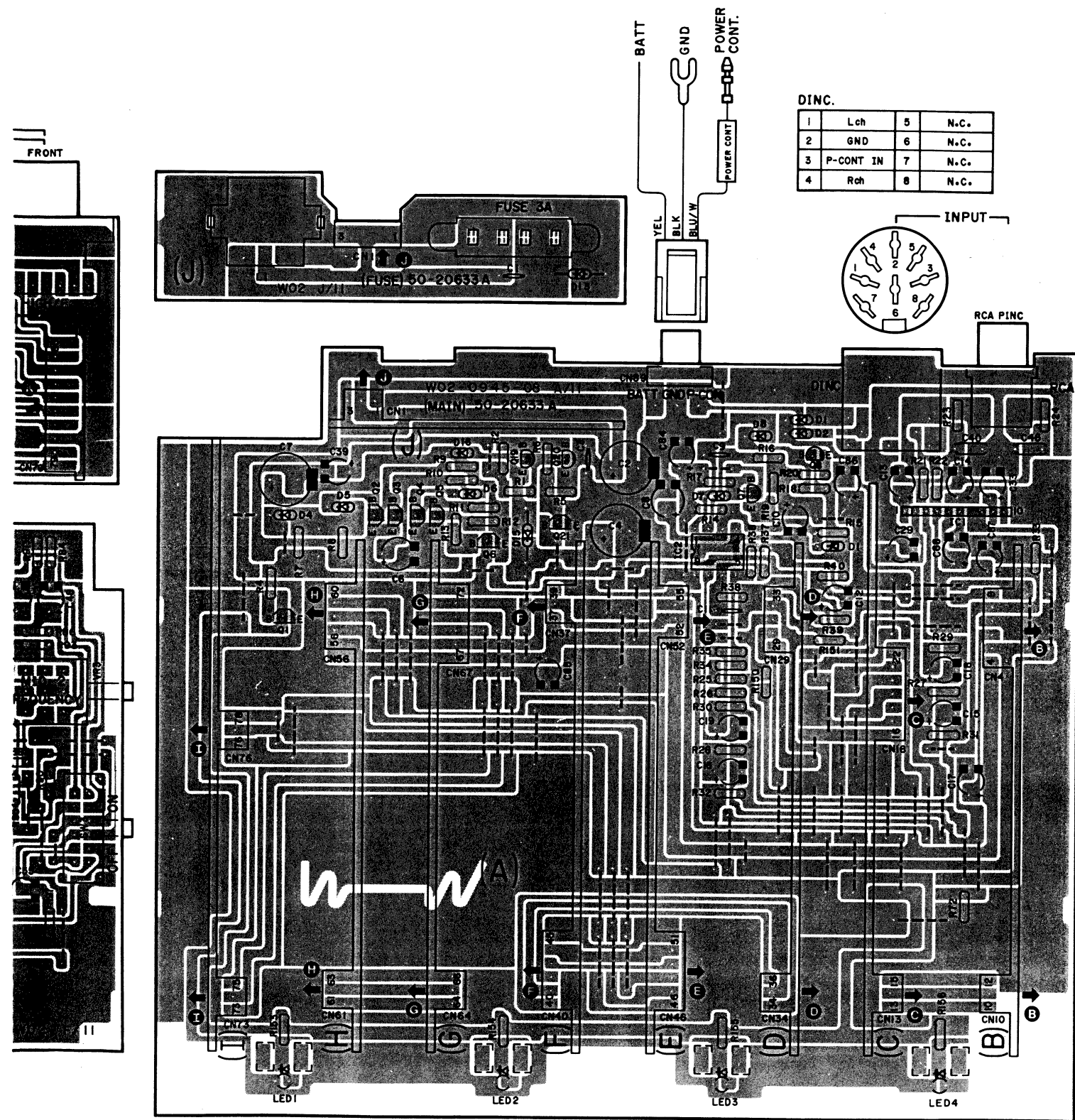
7



MC-Service



MC-Service



ELECTRIC UNIT (W02-0945-08)

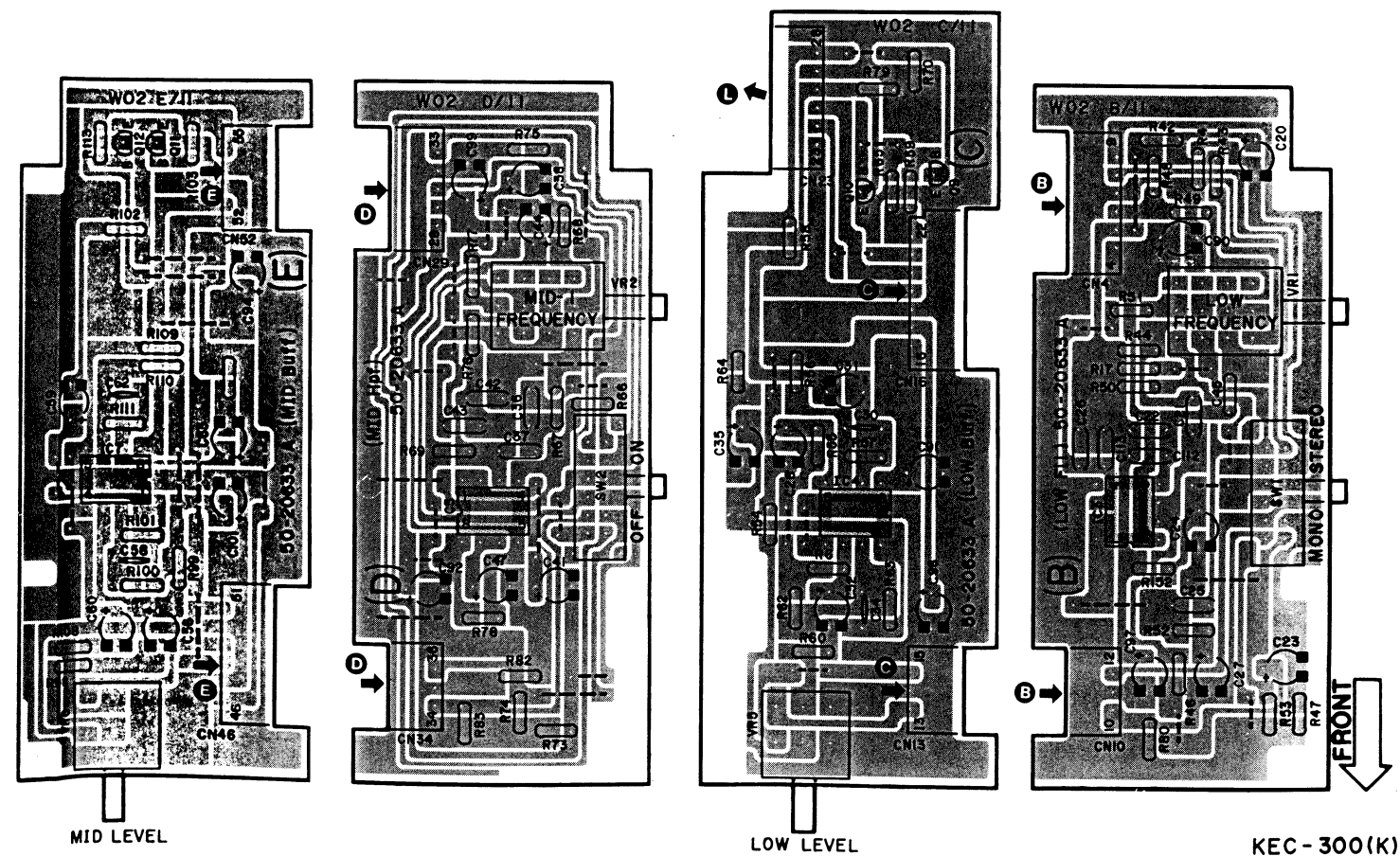
	B	C	E
Q1	13.5V	0.2V	0V
Q7	6.6V	13V	-
Q8	5.4V	0V	-
Q17	13.8V	14V	14.4V
Q18	-	0.2V	-
Q19	-	-	13.4V
Q20	13.8V	-	14.4
Q21	-	0.2V	0

IC1	
1	6V
2	6V
3	6V
4	13V
5	6V
6	0V
8	6V
9	6V
10	6V

IC2 (1/2)	
1	6V
2	6.2V
3	6.2V

IC2 (2/2)	
4	0V
5	6V
6	6V
7	6V
8	13V

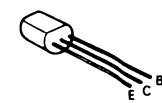
IC3 ~ 9	
1	6V
2	6V
3	6V
4	0V
5	6V
6	6V
7	6V
8	13V



KEC-300(K)

MC-Service

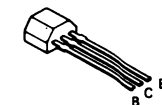
Refer to the schematic diagram for the values of registers and capacitors.



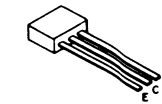
2SA1015
2SA934
2SC1741A
2SC1815
2SC2060
2SC2878



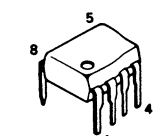
2SB822F



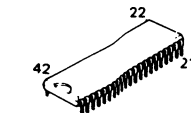
2SA933S
2SC1740S



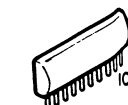
DTC114YS



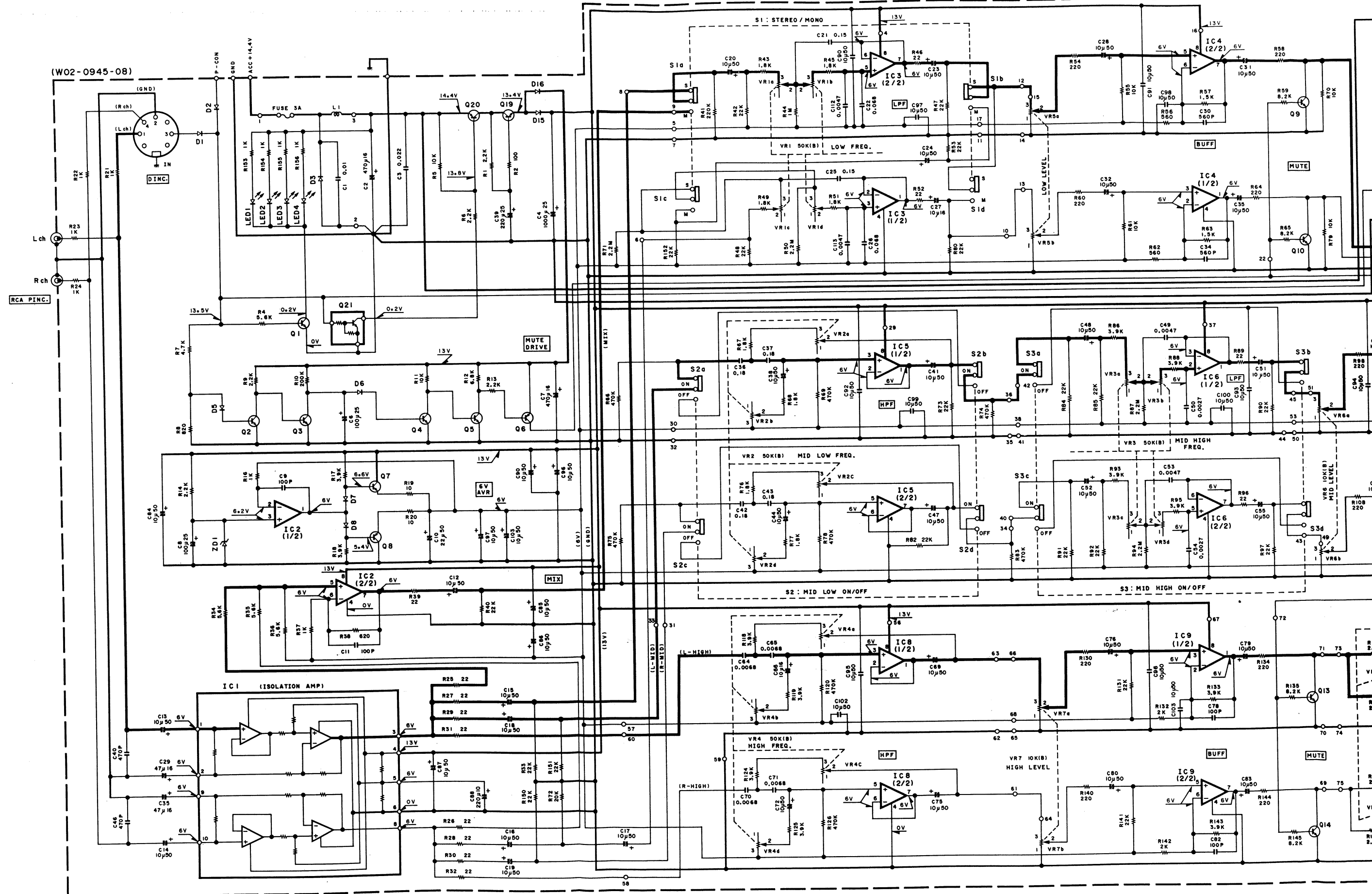
NJM2068D-D



M521BP



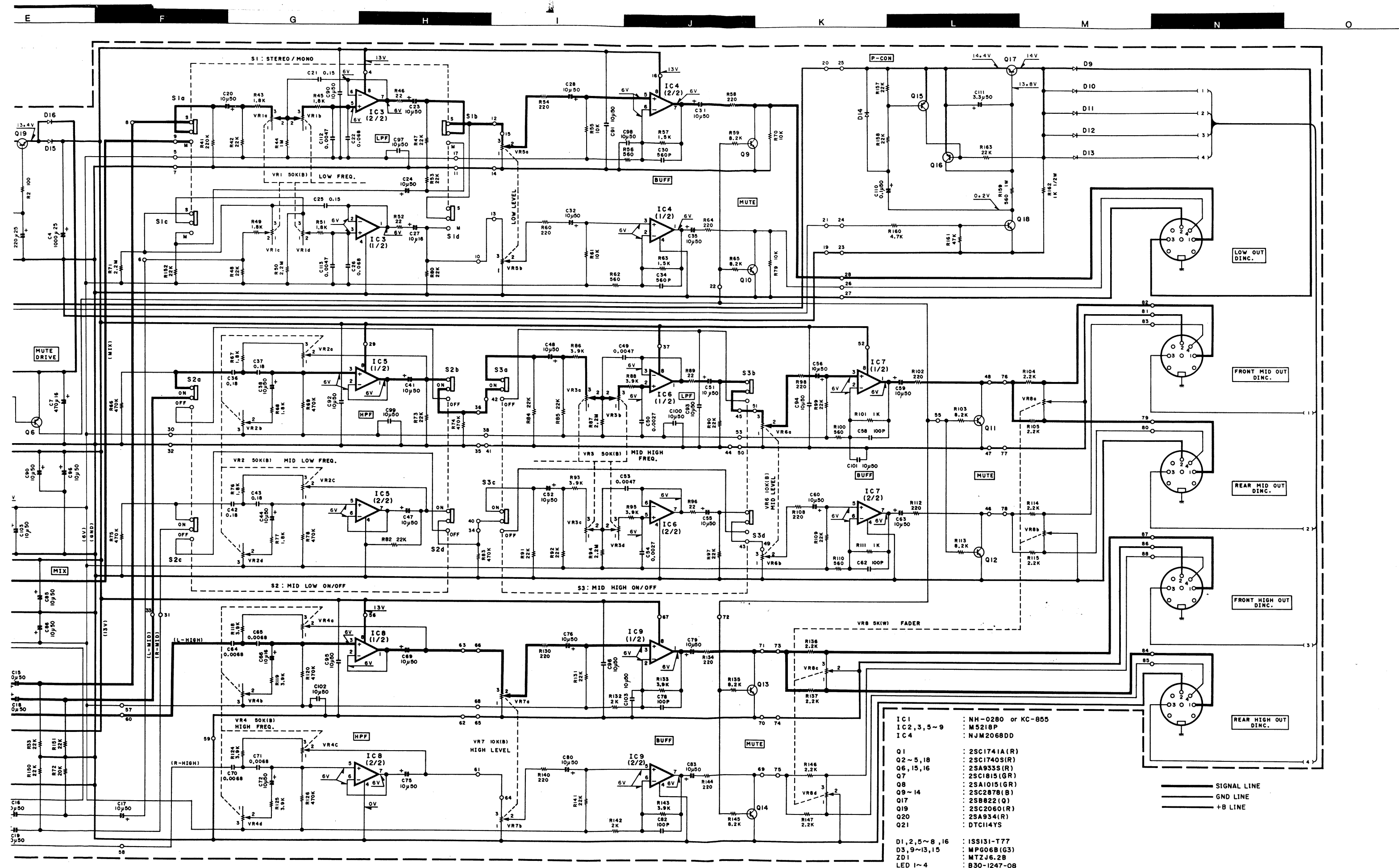
KC-855
NH-0280



MC-Service

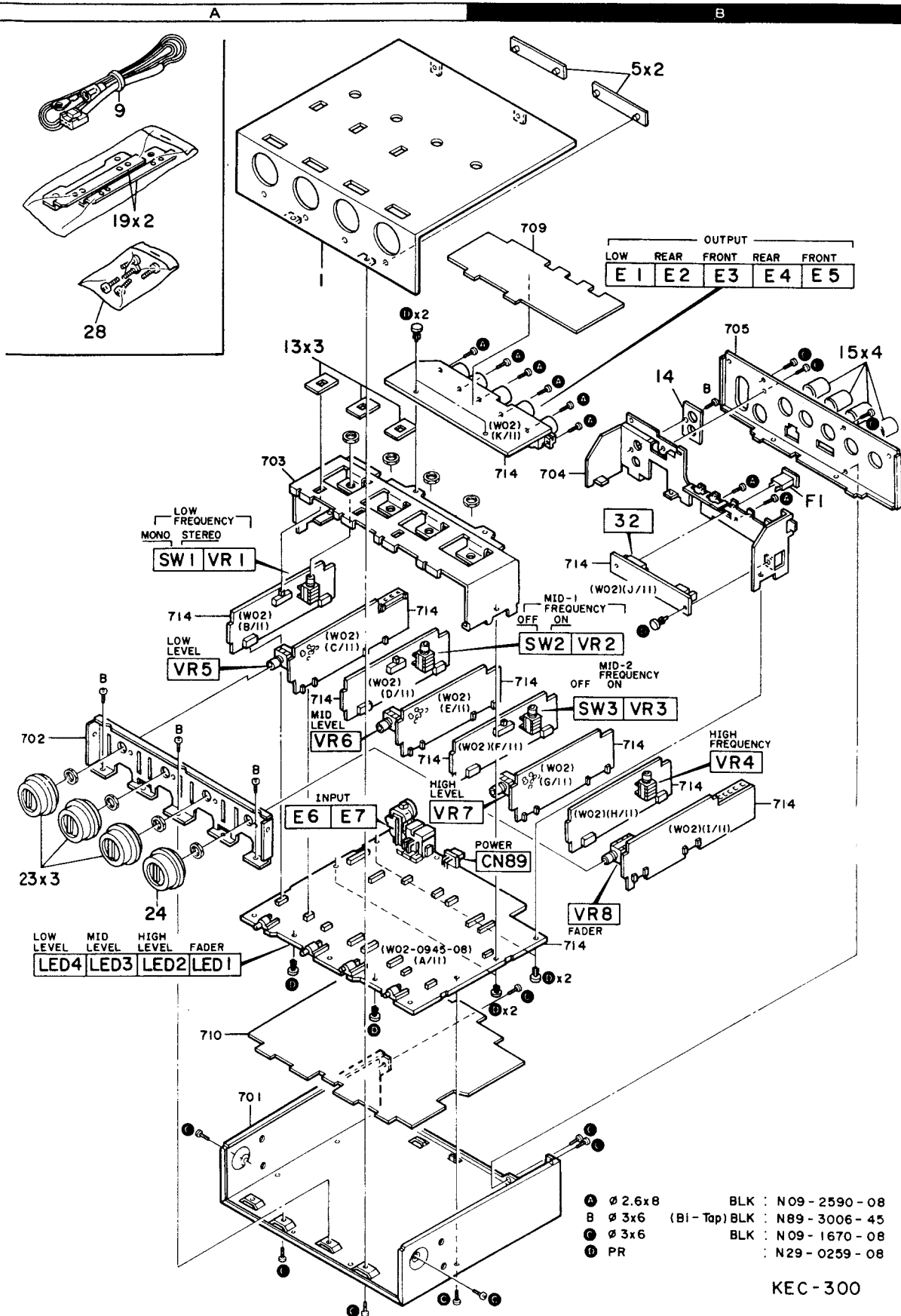
● DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

● Les tensions c.c. doivent être volt-mètre à haute impédance : Les valeurs peuvent différer légèrement des valeurs inhérentes aux appareils de mesure individuels.



KEC-300
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EXPLODED VIEW



PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
KEC-300						
1	1A	*	A20-5589-08	TOP COVER		
5	1B	*	B11-0197-08	FILTER		
-		*	B46-0100-10	WARRANTY CARD		
-		*	B50-8838-00	INSTRUCTION MANUAL		
-		*	B58-0803-03	CAUTION CARD		
9	1A	*	E30-2449-08	CORD ASSY		
13	1A	*	F19-0572-08	BLIND PLATE (FREQUENCY ON/OFF)		
14	1B	*	F19-0573-08	BLIND PLATE (REAR)		
15	1B		F29-0046-15	CAP (DIN CONNECTOR)		
F1	2B		F06-3026-05	FUSE (3A)		
-		*	H01-7811-08	ITEM CARTON BOX		
-		*	H10-3577-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H13-0020-08	PAPER BOARD		
-		*	H25-0112-04	PROTECTION BAG (180X270MM)		
-		*	H25-0251-04	PROTECTION BAG (60X150MM)		
-			H25-0298-04	PROTECTION BAG (260X280MM)		
19	1A	*	J21-5301-08	MOUNTING HARDWARE		
23	2A	*	K29-3280-08	KNOB ASSY (LEVEL)		
24	3A	*	K29-3281-08	KNOB ASSY (FADER)		
28	1A		N99-0265-08	SCREW SET		
A	1B, 2B	*	N09-2590-08	SCREW (Ø2.6X8)		
C	3A, 1B		N09-1670-08	SCREW (Ø3X6)		
D	3A, 3B	*	N29-0259-08	PUSH RIVET		
ELECTRIC UNIT (W02-0945-08)						
LED1-4	3A	*	B30-1247-08	LED (LEVEL, FADER)		
C1			CK45F1H103Z	CERAMIC 0.010UF Z		
C2			CE04DW1C471M	ELECTRO 470UF 16WV		
C3			CK45F1H223Z	CERAMIC 0.022UF Z		
C4			CE04DW1C102M	ELECTRO 1000UF 16WV		
C6			CE04DW1E101M	ELECTRO 100UF 25WV		
C7			CE04DW1C471M	ELECTRO 470UF 16WV		
C8			CE04DW1E101M	ELECTRO 100UF 25WV		
C9			CK45B1H101K	CERAMIC 100PF K		
C10			CE04DW1H220M	ELECTRO 22UF 50WV		
C11			CK45B1H101K	CERAMIC 100PF K		
C12 -20			CE04DW1H100M	ELECTRO 10UF 50WV		
C21			CF92V1H154J	MF 0.15UF J		
C22			CF92V1H683J	MF 0.068UF J		
C23 ,24			CE04DW1H100M	ELECTRO 10UF 50WV		
C25			CF92V1H154J	MF 0.15UF J		
C26			CF92V1H683J	MF 0.068UF J		
C27 ,28			CE04DW1H100M	ELECTRO 10UF 50WV		
C29		*	CE04DW1E470M	ELECTRO 47UF 25WV		
C30			CK45B1H561K	CERAMIC 560PF K		
C31 ,32			CE04DW1H100M	ELECTRO 10UF 50WV		
C33		*	CE04DW1E470M	ELECTRO 47UF 25WV		
C34			CK45B1H561K	CERAMIC 560PF K		
C35			CE04DW1H100M	ELECTRO 10UF 50WV		
C36 ,37		*	CF92V1H184J	MF 0.18UF J		

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 UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

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C38			CE04DW1H100M	ELECTR0 10UF 50WV		
C39			CE04DW1E221M	ELECTR0 220UF 25WV		
C40		*	CQ92M1H471K	MYLAR 470PF K		
C41			CE04DW1H100M	ELECTR0 10UF 50WV		
C42 ,43		*	CF92V1H184J	MF 0.18UF J		
C44			CE04DW1H100M	ELECTR0 10UF 50WV		
C46		*	CQ92M1H471K	MYLAR 470PF K		
C47 ,48			CE04DW1H100M	ELECTR0 10UF 50WV		
C49			CQ92M1H472K	MYLAR 4700PF K		
C50			CQ92M1H272K	MYLAR 2700PF K		
C51 ,52			CE04DW1H100M	ELECTR0 10UF 50WV		
C53			CQ92M1H472K	MYLAR 4700PF K		
C54			CQ92M1H272K	MYLAR 2700PF K		
C55 ,56			CE04DW1H100M	ELECTR0 10UF 50WV		
C58			CK45B1H101K	CERAMIC 100PF K		
C59 ,60			CE04DW1H100M	ELECTR0 10UF 50WV		
C62			CK45B1H101K	CERAMIC 100PF K		
C63			CE04DW1H100M	ELECTR0 10UF 50WV		
C64 ,65			CQ92M1H682K	MYLAR 6800PF K		
C66			CE04DW1H100M	ELECTR0 10UF 50WV		
C69			CE04DW1H100M	ELECTR0 10UF 50WV		
C70 ,71			CQ92M1H682K	MYLAR 6800PF K		
C72			CE04DW1H100M	ELECTR0 10UF 50WV		
C75 ,76			CE04DW1H100M	ELECTR0 10UF 50WV		
C78			CK45B1H101K	CERAMIC 100PF K		
C79 ,80			CE04DW1H100M	ELECTR0 10UF 50WV		
C82			CK45B1H101K	CERAMIC 100PF K		
C83 -87			CE04DW1H100M	ELECTR0 10UF 50WV		
C88			CE04DW1A221M	ELECTR0 220UF 10WV		
C90 -103			CE04DW1H100M	ELECTR0 10UF 50WV		
C110			CE04DW1HOR1M	ELECTR0 0.1UF 50WV		
C111			CE04DW1H3R3M	ELECTR0 3.3UF 50WV		
C112,113			CQ92M1H472K	MYLAR 4700PF K		
E1 -5	1B	*	E06-0818-08	DIN CONNECTOR (OUTPUT)		
E6	2A		E13-0236-05	PHONE JACK		
E7	2A		E06-0816-05	DIN SOCKET		
.32	2B		J13-0071-05	FUSE HOLDER		
L1		*	L33-0348-08	CHOKER TRANS		
R159			RS14KB3A561J	FL-PROOF RS 560 J 1W		
R162		*	RD14BB2H102J	RD 1.0K J 1/2W		
VR1 -4	2A,2B	*	R11-4028-08	POTENTIOMETER(50K)FREQUENCY		
VR5 -7	2A	*	R10-3036-08	POTENTIOMETER(10KB)LEVEL		
VR8	3B	*	R11-2001-08	POTENTIOMETER(5KW)FADER		
SW1 -3	2A,2B	*	S31-1028-08	SLIDE SWITCH (FREQUENCY)		
D1 ,2			1SS131-T77	DIODE		
D3		*	MPG06B(G3)	DIODE		
D4 -14			1SS131-T77	DIODE		
D15		*	MPG06B(G3)	DIODE		
D16			1SS131-T77	DIODE		
IC1			KC-855	IC(ISOLATION AMP)		
IC1		*	NH-0280	IC(ISOLATION AMP)		
IC2 ,3			M5218P	IC(OP AMP X2)		

E: Scandinavia & Europe K: USA

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IC4			NJM2068D-D	IC(OP AMP X2)		
IC5 -9			M5218P	IC(OP AMP X2)		
Q1			2SC1741A(R)	TRANSISTOR		
Q2 -5			2SC1740S(R)	TRANSISTOR		
Q6			2SA933S(R)	TRANSISTOR		
Q7			2SC181S(GR)	TRANSISTOR		
Q8			2SA101S(GR)	TRANSISTOR		
Q9 -14			2SC287B(B)	TRANSISTOR		
Q15 ,16			2SA933S(R)	TRANSISTOR		
Q17		*	2SB822F(Q)	TRANSISTOR		
Q18			2SC1740S(R)	TRANSISTOR		
Q19		*	2SC206D(R)	TRANSISTOR		
Q20		*	2SA934(R)	TRANSISTOR		
Q21			DTC114YS	DIGITAL TRANSISTOR		
ZD1		*	MTZJ6.2B	ZENER DIODE		

E: Scandinavia & Europe K: USA

P: Canada

U: PX(Far East, Hawaii) T: England

M: Other Areas

UE: AAFES(Europe)

X: Australia

⚠ indicates safety critical components.

SPECIFICATIONS

Crossover points

LOW	30 Hz to 800 Hz continuous adjustment
MID 1	30 Hz to 800 Hz continuous adjustment
MID 2	800 Hz to 10 kHz continuous adjustment
HIGH	800 Hz to 10 kHz continuous adjustment
Crossover Slope	12 dB/oct
	18 dB/oct (MONO, LOW-output)
Frequency Response	10 Hz ~ 100 kHz (± 3 dB)
Distortion (1 kHz)	0.003%
T.H.D. (20 Hz ~ 20 kHz)	0.01%
Signal to Noise Ratio	100 dB
Output Level/Impedance (Max.)	3.0 V/250 ohms
Output Level Control	- ∞ to + 10 dB Adjustable (LOW)
	- ∞ to 0 dB Adjustable (MID & HI)
Current Consumption	260 mA
Dimensions (W \times H \times D)	180 \times 50 \times 155 mm
	(7-1/16 \times 1-15/16 \times 6-1/8 in)
Weight	1.1 kg (2.4 lbs)

Note: _____
 We follow a policy of continuous advancements in developments. For this reason specifications may be changed without notice.

Note

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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